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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/714,049 | 11/13/2003 | John J. Duigenan | GB920030046US1 | 3180 |

|  | 7590 | 05/23/2007 |
|---|---|---|

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| EXAMINER |
|---|
| PHAN, TUANKHANH D |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2109 |  |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/714,049 | DUIGENAN ET AL. |
| | Examiner | Art Unit | |
| | TuanKhanh Phan | 2109 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 May 2005*.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-33* is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a)☒ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

 * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date *5/24/2005*.

4)☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)       Office Action Summary      Part of Paper No./Mail Date 20070515

## DETAILED ACTION

### *Specification*

1.      The disclosure is objected to because of copending application number is

not presented.  Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2.      The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a
> foreign country or in public use or on sale in this country, more than one year
> prior to the date of application for patent in the United States.

3.      Claims 1-33 are rejected under 35 U.S.C. 102(b) as being anticipated by

Sun Qixiang (Reliable Multicast for Publish/Subscribe Systems), hereinafter

referred as Sun.

Regarding claims 1, 17, and 33, Sun anticipates a method/product for

indicating status from a subscriber (section 5.3, p. 49, "member"; p. 52,

"pending_join, pending_leave, join, or leave") to a broker (p. 49, "logger") in a

multicast publish/subscribe messaging system (p. 49, "rpbcast") comprising the

broker and a plurality of subscribers (p. 11, ¶ 2; p. 49), the subscriber comprising:

means, responsive to seeing an indication of status (p. 30, ¶ 5; p. 49, ¶ 4), for

setting a timer (p. 49, "time t"); means for canceling (p. 52, "t_join :=-1) the timer

if the subscriber sees an indication of status prior to the expiry of the timer (p. 49,

"before and after"); and means for sending, on expiry of the timer, an indication of

status to the broker (p. 52, "cmembers"). It is inherent that a publish/subscriber

messaging system has at least one subscriber.

Regarding claims 2 and 18, Sun anticipates the subscriber of claims 1 and

17, wherein the means for sending an indication of status comprises: means for

multicasting a claim that the subscriber proposes to send an indication of its

presence to the broker (p. 49, ¶ 3, 4, & 5 "loggers"); and means for sending a

presence indication to the broker (p. 49, ¶ 3, 4, & 5 "membership information").

Regarding claims 3 and 19, Sun anticipates the subscriber of claims 2 and

18 wherein the indication of status responsive to which the timer is set is a claim

(p. 49, "time t").

Regarding claims 4 and 20, Sun anticipates the subscriber of claims 1

and 17, wherein the means for canceling (p. 52, "t_join :=-1) the timer comprises:

means for determining at least one of i) if a desired number of subscribers have

indicated status (p. 52, last ¶) and ii) that the broker is aware of the presence of

at least one subscriber (p. 53, "cmember"); and means, responsive to

determining that a desired number of subscribers have indicated status and/or

that the broker is aware of the presence of at least one subscriber, for canceling

the timer (p. 52, "t_join :=-1).

Regarding claims 5 and 21, Sun anticipates the subscriber of claim 4 and

20 comprising: means for receiving and storing a max value (p. 52 & 53,

"cmembers," "largest freshness"), the max value being representative of the

desired number of subscribers (p. 52 & 53, "cmembers"). It is inherent that the

desired maximum number of subscribers in a network is always considered to

avoid traffic congestion.

Regarding claims 6 and 22, Sun anticipates the subscriber of claims 1 and

17 wherein in operation an active connection between the broker and the

subscriber is maintained (p. 52, last 2 lines; p. 53, lines 10), the subscriber

comprising: means for using the active connection to send an indication of its

presence to the broker (p. 52, last 2 lines; p. 53, lines 10).

Regarding claims 7 and 23, Sun anticipates the subscriber of claims 6 and

22, wherein the active connection is a TCP connection (Figure 3-1).

Regarding claims 8 and 24, Sun anticipates the subscriber of claims 1 and

17, wherein the indication of status is piggybacked onto another message (p 23.

¶ 1).

Regarding claims 9 and 25, Sun anticipates the subscriber of claims 1 and

17, wherein the indication of status is sent over one of: a UDP connection (Figure

3-1); and a TCP connection (Figure 3-1).

Regarding claims 10 and 26, Sun anticipates the subscriber of claims 1
and 17 comprising: means for receiving an indication from the broker that the
broker is aware of the presence of at least one subscriber (p. 49, ¶ 4).

Regarding claim 11, Sun anticipates a broker for status monitoring in a
multicast publish/subscribe messaging system comprising a plurality of
subscribers as claimed in claim 1 (see discussion of the claim 1 above), wherein
the broker is operable to maintain at least one active connection between the
broker and at least one subscriber (p. 52, last 2 lines; p. 53, lines 10), the broker
comprising: means for determining which subscribers have an active connection
to the broker (p. 52, last 2 lines; p. 53, lines 10); and means for informing a
subscriber that they should set a timer only if that subscriber has an active
connection to the broker (p. 52, last 2 lines; p. 53, lines 10).

Regarding claim 12. A broker for status monitoring in a multicast
publish/subscribe messaging system comprising a plurality of subscribers as
claimed in claim 1, wherein the broker is operable to maintain at least one active
connection between the broker and at least one subscriber, the broker
comprising: means for determining which subscribers have an active connection
to the broker (see discussion of the claim 11); and means for informing such
active subscribers that their timer should run for less than a predetermined
amount (p. 49, "time t").

Regarding claim 13, Sun anticipates the broker of claim 11, wherein the
broker comprising: means for designating as a primary subscriber  (p. 49, "gossip

target") the first subscriber to register interest in a topic; and means for

maintaining an active connection to the primary subscriber (p. 49).

Regarding claim 14, Sun anticipates the broker of claim 13 comprising:

means for, in the event of failure of the primary subscriber, designating (p. 49,

"exchanged") as a new primary subscriber the subscriber whose indication of

status is next received.

Regarding claim 15, Sun anticipates the broker of claim 13 comprising:

means for informing at least the primary subscriber that it is responsible for

periodically indicating status to the broker (p. 52).

Regarding claim 16, Sun anticipates a broker for status monitoring in a

multicast publish/subscribe messaging system comprising a plurality of

subscribers as claimed in claim 1, the broker comprising: means for listening in

on a multicast channel (Figure 3-2), used by the subscribers, in order to receive

any indications of status from said subscribers (p. 52).

### *Conclusion*

4.      The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

- Banavar et al. US Pat. 6,336,119.  Jan. 1, 2002

- Bhola et al. "Exactly-once delivery in a Content-Based Publish-

Subscribe System." Proceedings of the International Conference on Dependable

Systems and Networks. Jun. 23-26, 2002.

- Bolem et al. US Pat. 6,154,781. Nov. 28, 2000

- Bracho et al. US Pat. 5,870,605. Feb. 9, 1999

- Harris Larry. US Pub. 20020059204. May 16, 2002

- Opyrchal et al. Exploiting IP Multicast in Content-Based Publish

Subscribe Systems.  Middleware: 2000. pp. 185-207

### *Contact Information*

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to TuanKhanh Phan whose telephone number is

571-270-3047.  The examiner can normally be reached on Mon to Fri, 9:00am to

5:00pm EST, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system.  Status information

for published applications may be obtained from either Private PAIR or Public

PAIR.  Status information for unpublished applications is available through

Private PAIR only.  For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.


tkp


PATRICK ASSOUAD
SUPERVISORY PATENT EXAMINER